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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,068	07/10/2006	Kenji Nakamura	20699/0205038-US0	5521

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EXAMINER	
FREEMAN, JOHN D	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/597,068	NAKAMURA ET AL.	
	Examiner	Art Unit	
	John Freeman	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-14 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-14 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 7/06.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 7-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyashita et al. (JP 05-000492).

3. Miyashita et al. (hereafter Miyashita) disclose a polyamide film [0001]. The films comprises at least layers (a), (b), and (c) [0010]. Miyashita teaches five layered structures [0024]. Layer (a) comprises polymer (A), which is an aromatic polyamide [0010]. Layer (b) comprises polymer (B), which comprises an aliphatic polyamide [0010]. Layer (c) comprises a mixture of polymers (A) and (B) [0010]. The preferred mixing ratio of polymers (A) and (B) lies in the range of 7:3 to 1:9 [0018]. The endpoint of 1:9 anticipates the range disclosed by Applicant.

4. Given that the polymeric structure described by Miyashita is the same as the multilayer film disclosed by Applicant, the examiner takes the position that Miyashita's film inherently would have the flex resistance values of 5 or less pinholes per 497 cm2. The examiner notes that examples given in Table 1 disclose multilayer structures having flex resistance values greater than 5 pinholes per 497 cm2. Those examples, however, do not use a weight ratio of A:B of 1:9. Therefore, those values cannot be used against the current rejection.

5. Regarding claims 2-3:

6. Examples 9 and 10 provide a teaching of a multilayer film having the structure a/c/b and b/c/a/c/b respectively.

7. Regarding claims 7-8:

8. The film is biaxially stretched 2.5-5 times in each direction [0027].

9. Regarding claims 9-10:

10. Given that Miyashita is silent with regard to the aliphatic content of the aromatic polyamide (A) and the aromatic content of the aliphatic polyamide (B), the examiner considers Miyashita to disclose an aliphatic content and aromatic content of 0% in each respective case.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1, 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita et al. (JP 05-000492).

13. Miyashita et al. (hereafter Miyashita) disclose a polyamide film [0001]. The films comprises at least layers (a), (b), and (c) [0010]. Miyashita teaches five layered structures [0024]. Layer (a) comprises polymer (A), which is an aromatic polyamide [0010]. Layer (b) comprises polymer (B), which comprises an aliphatic polyamide [0010]. Layer (c) comprises a mixture of polymers (A) and (B) [0010]. The preferred mixing ratio of polymers (A) and (B) lies in the range of 7:3 to 1:9 [0018]. The range overlaps with Applicant's disclosed range. As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

14. Given that the polymeric structure described by Miyashita is the same as the multilayer film disclosed by Applicant, the examiner takes the position that Miyashita's film inherently would have the flex resistance values of 5 or less pinholes per 497 cm2. The examiner notes that examples given in Table 1 disclose multilayer structures having flex resistance values greater than 5 pinholes per 497 cm2. Those examples, however, do not use a weight ratio of A:B of 1:9. Therefore, those values cannot be used against the current rejection.

15. Miyashita is silent with regard to multiple (c) layers that have different compositions from each other.

16. At the time of the invention, it would have been obvious to one of ordinary skill in the art to vary the compositions through routine optimization, for example, to improve adhesion of layers.

17. Claims 1, 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita et al. (JP 05-000492) in view of Miyashita et al. (JP 08-156205).

18. Miyashita et al. (hereafter Miyashita) disclose a polyamide film [0001]. The films comprises at least layers (a), (b), and (c) [0010]. Miyashita teaches five layered structures [0024]. Layer (a) comprises polymer (A), which is an aromatic polyamide [0010]. Layer (b) comprises polymer (B), which comprises an aliphatic polyamide [0010]. Layer (c) comprises a mixture of polymers (A) and (B) [0010]. The preferred mixing ratio of polymers (A) and (B) lies in the range of 7:3 to 1:9 [0018]. The range overlaps with Applicant's disclosed range. As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

19. The aliphatic polyamide can be nylon 6 or nylon 66 [0017].

20. Miyashita is silent with regard to a hindered phenolic antioxidant.

21. The use of such antioxidants was well-known in the art at the time of the invention, as evidenced by Miyashita ('205), which discloses a film [0001]. The film contains a layer (c) comprising a mixture of aromatic and aliphatic polyamides, and having a hindered phenolic antioxidant content of 0.006-0.5% [0010]. The hindered phenols include those listed by Applicant, such as 3,5-di-t-butyl-4-hydroxybenzylphosphonate-diethyl ester [0022].

22. At the time of the invention, it would have been obvious to one of ordinary skill in the art to add the phenolic antioxidant to the layer containing a mixture of polyamide types to improve its resistance to oxidation.

23. Further, Miyashita ('492) and Miyashita ('205) are silent with regard to a polyamide film comprising 10-80% of the thickness of the overall film.

24. Given the very broad range claimed by Applicant, at the time of the invention, it would have been obvious to one of ordinary skill in the art to arrive at a thickness within said range. For example, one of ordinary skill would appreciate that a layer comprising 60%+ of the film would impart more structural properties to the film than other layers, and adjust the thicknesses of the layers accordingly.

25. Claims 1, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita et al. (JP 05-000492) in view of Tanaka et al. (JP 2002-172742).

26. Miyashita et al. (hereafter Miyashita) disclose a polyamide film [0001]. The films comprises at least layers (a), (b), and (c) [0010]. Miyashita teaches five layered structures [0024]. Layer (a) comprises polymer (A), which is an aromatic polyamide [0010]. Layer (b) comprises polymer (B), which comprises an aliphatic polyamide [0010]. Layer (c) comprises a mixture of polymers (A) and (B) [0010]. The preferred mixing ratio of polymers (A) and (B) lies in the range of 7:3 to 1:9 [0018]. The range overlaps with Applicant's disclosed range. As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

27. Miyashita is silent with regard to a layer comprising ethylene-vinyl alcohol (i.e. saponified ethylene-vinyl acetate).

28. The use of such layers in polyamide-based film was well-known in the art at the time of the invention, as evidenced by Tanaka. Tanaka discloses a film comprising layers X, Y, and Z. Layer X comprises ethylene-vinyl alcohol (EVOH) [0005-0006, Abstract]. Layer Y comprises an aliphatic polyamide. Layer Z comprises a mixture of aliphatic and aromatic polyamides.

29. Given the clear similarities between Tanaka and Miyashita, at the time of the invention, it would have been obvious to one of ordinary skill in the art to add an EVOH layer to improve the barrier properties of the film.

30. Claims 1, 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita et al. (JP 05-000492) in view of Miyashita et al. (JP 2002-187246).

31. Miyashita et al. (hereafter Miyashita) disclose a polyamide film [0001]. The films comprises at least layers (a), (b), and (c) [0010]. Miyashita teaches five layered structures [0024]. Layer (a) comprises polymer (A), which is an aromatic polyamide [0010]. Layer (b) comprises polymer (B), which comprises an aliphatic polyamide [0010]. Layer (c) comprises a mixture of polymers (A) and (B) [0010]. The preferred mixing ratio of polymers (A) and (B) lies in the range of 7:3 to 1:9 [0018]. The range overlaps with Applicant's disclosed range. As set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

32. Miyashita is silent with regard to a flex resistance modifying agent.

33. The use of such modifiers in polyamide-based film was well-known in the art at the time of the invention, as evidenced by Miyashita ('246). Miyashita ('246) discloses a polyamide elastomer (D) added to various polyamide layers to improve the flex resistance of the overall film, in a range of 0-10% by weight [0011].

34. At the time of the invention, it would have been obvious to one of ordinary skill in the art to add the polyamide elastomer to the film, in any and/or all layer, to improve the flex resistance of the overall film.

Conclusion

35. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stenger ('690), Okudaira ('263),Degrassi ('765, '750), Delius ('040), Hofmeister ('559), and Takeda (JP '591) disclose laminates having layers of different types of polyamide. The examiner has included the machine translations of all JPO documents cited on the International Search Report. The JPO documents would be cumulative to the rejections of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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